FG53(1)

FIG. 1

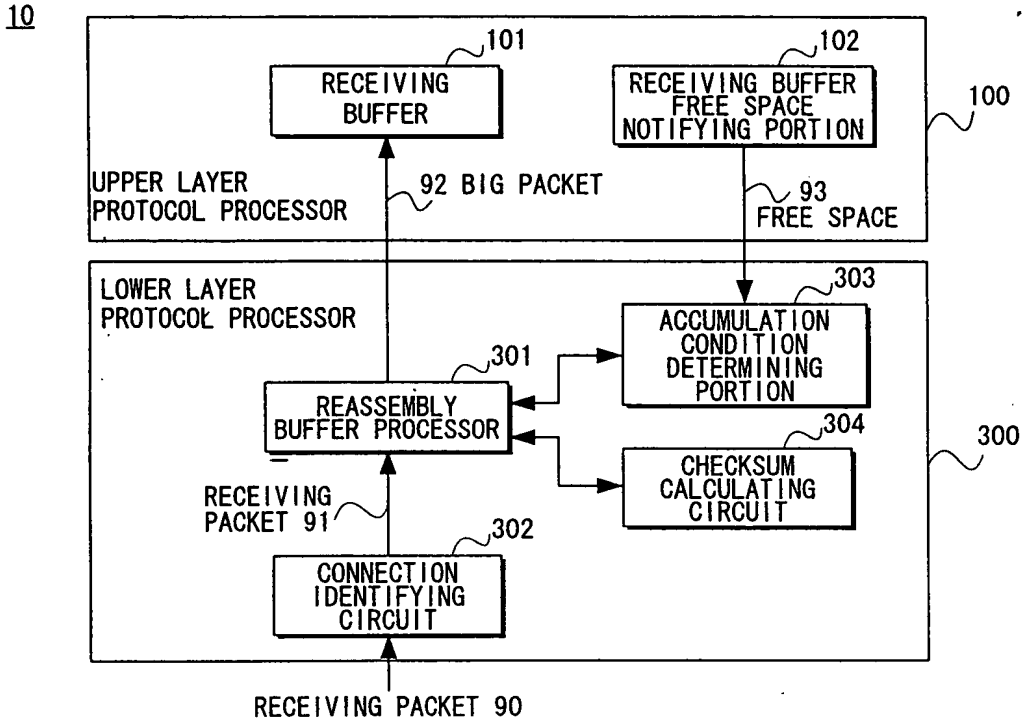

FIG. 2

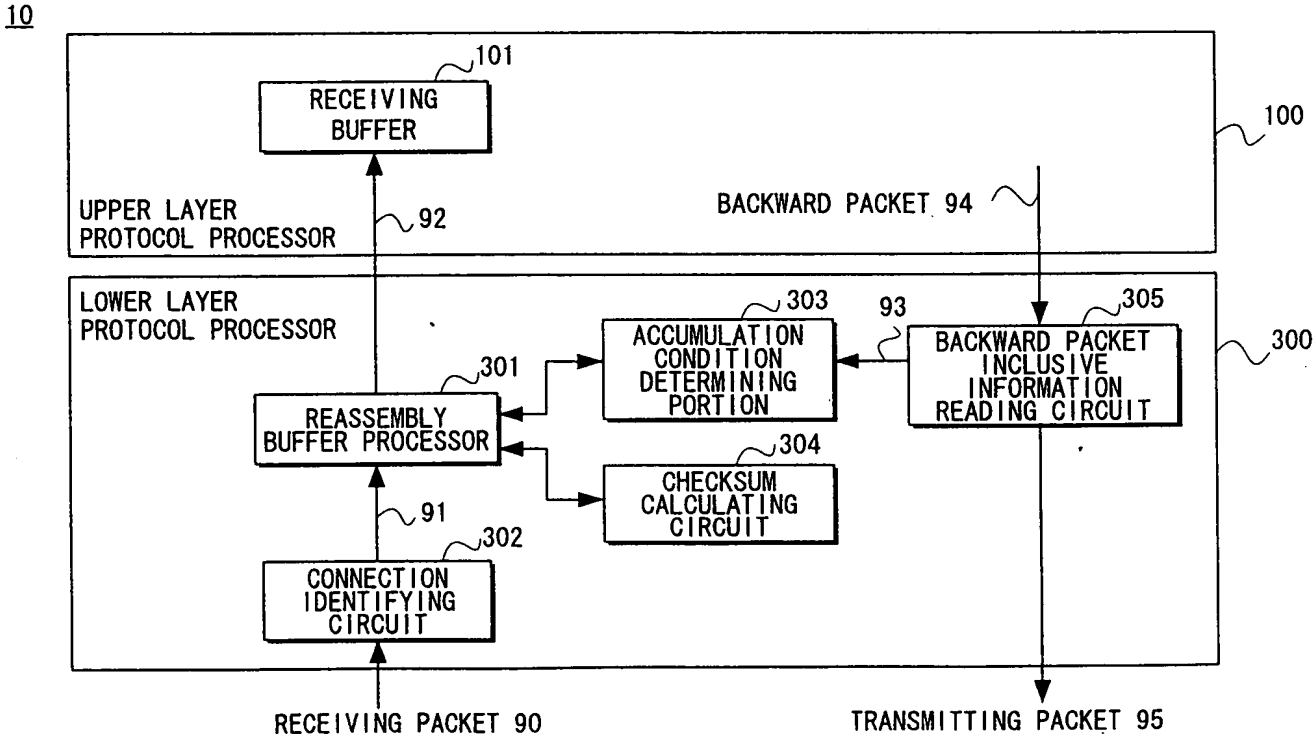

FIG. 3

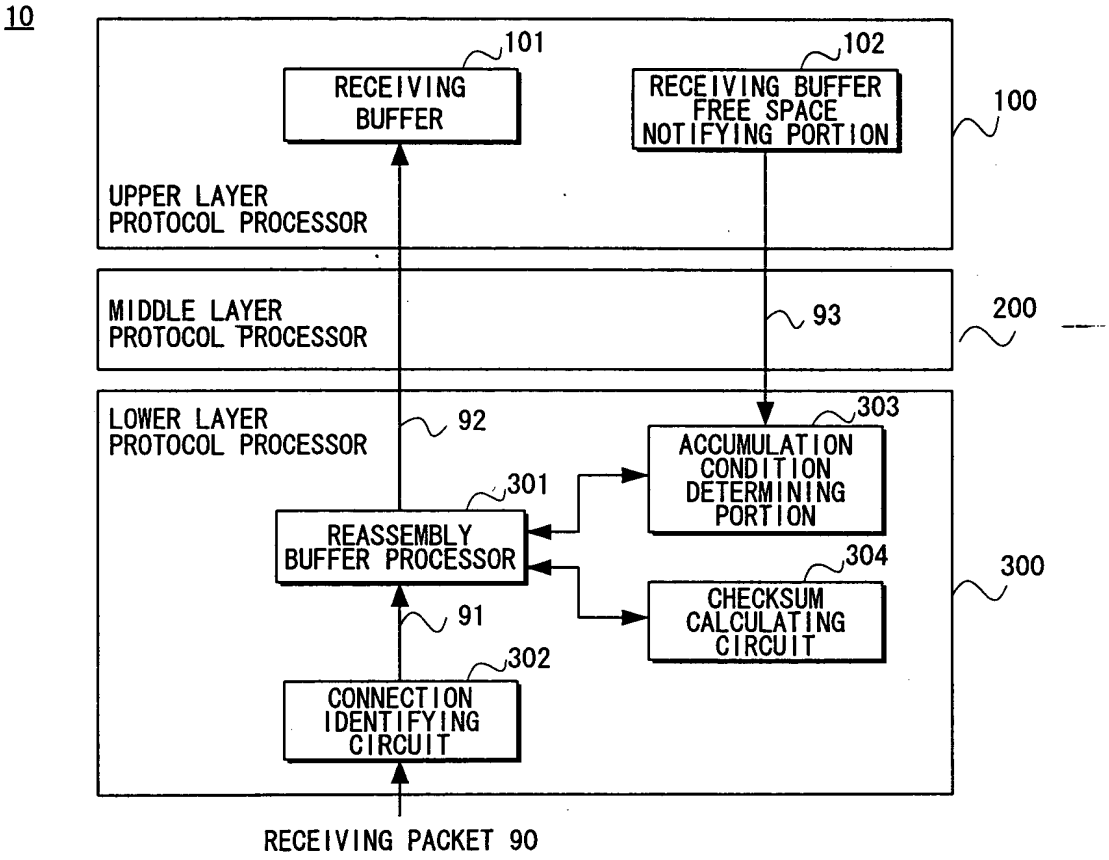

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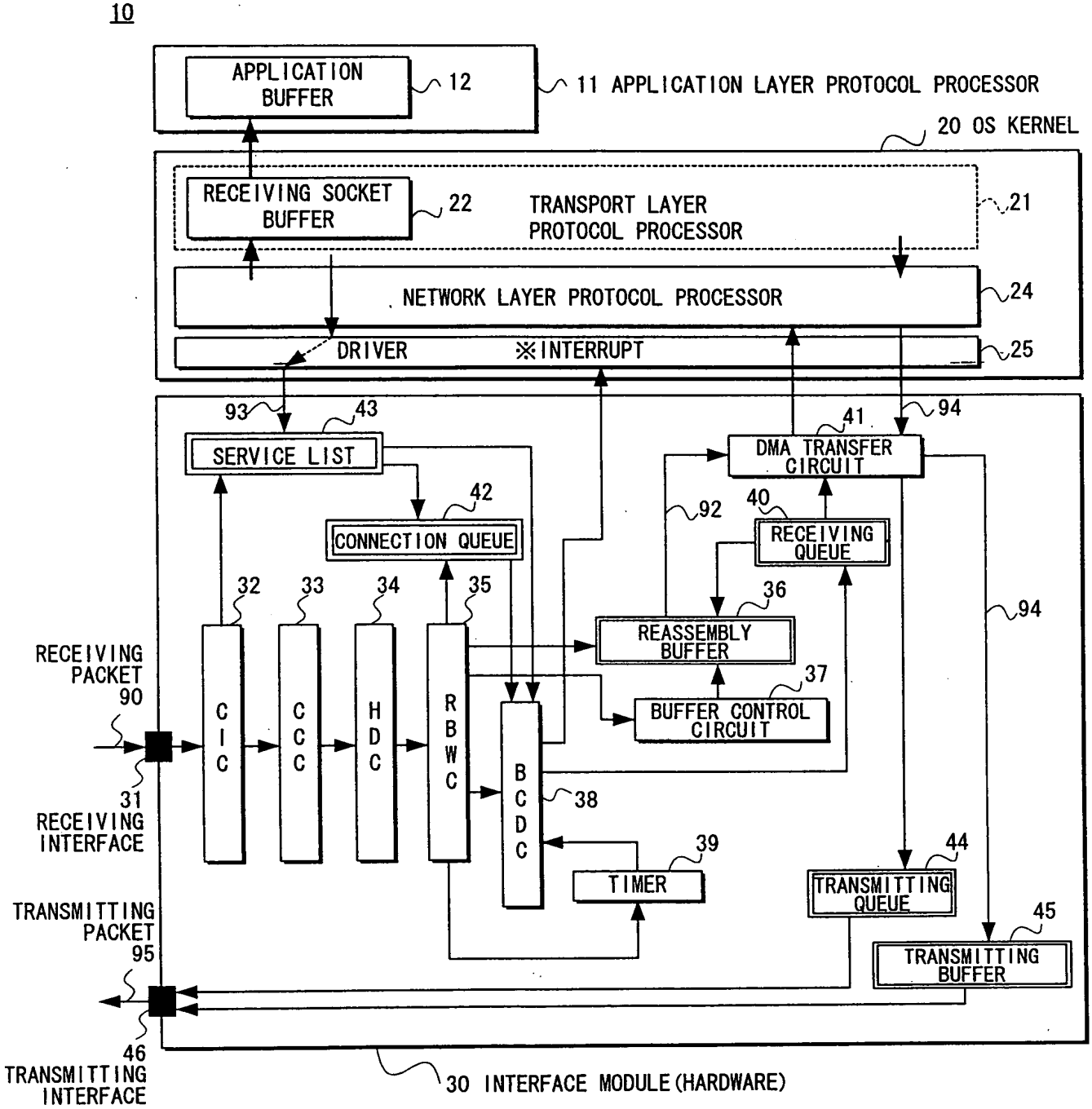
FIG. 4



CIC : CONNECTION IDENTIFYING CIRCUIT
CCC : CHECKSUM CALCULATING CIRCUIT
HDC : HEADER DELETING CIRCUIT
RBWC : REASSSEMBLY BUFFER WRITING CIRCUIT
BCDC : BUFFER CONDITION DETERMINING CIRCUIT

0061+0+5427+5560

FIG. 5

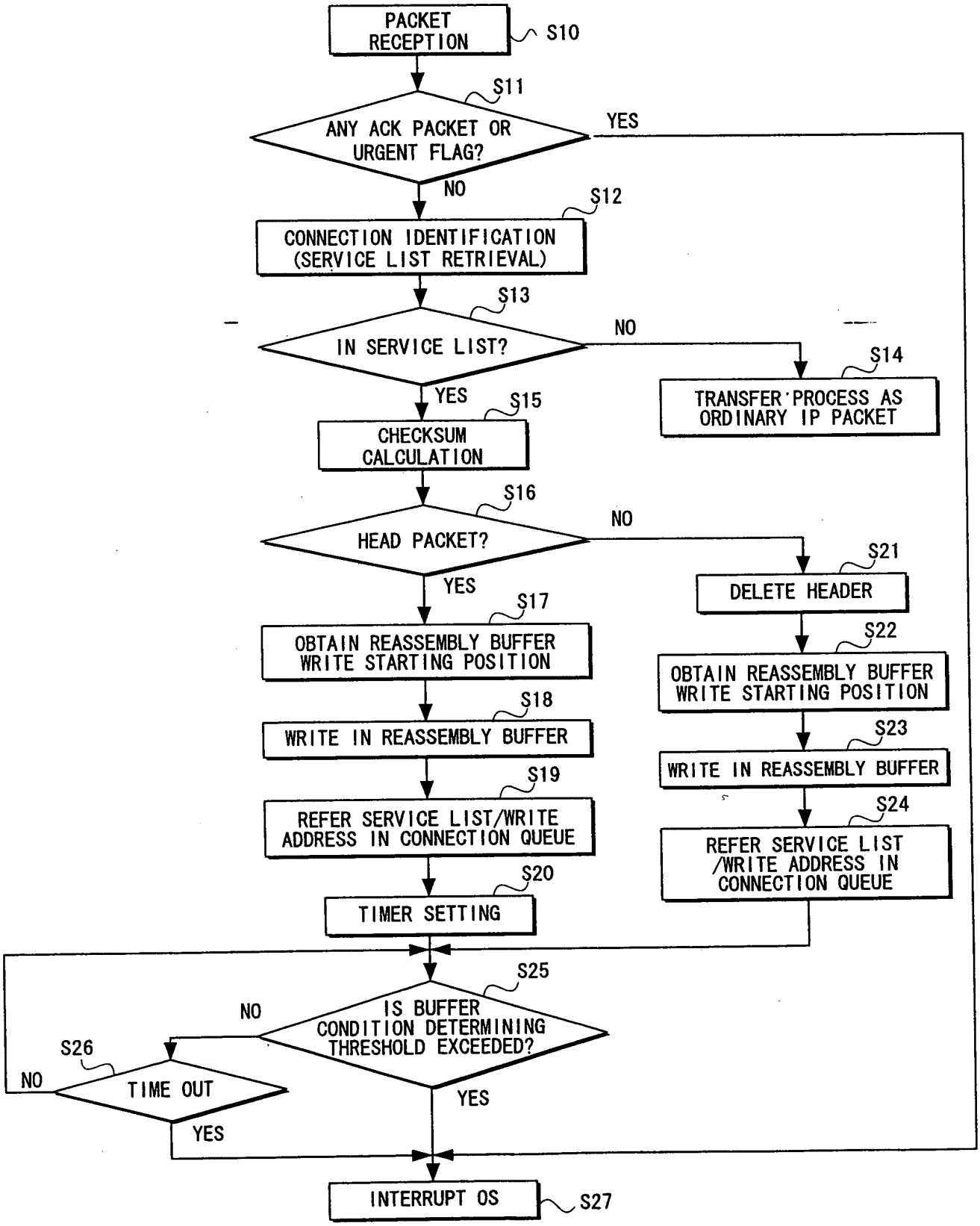
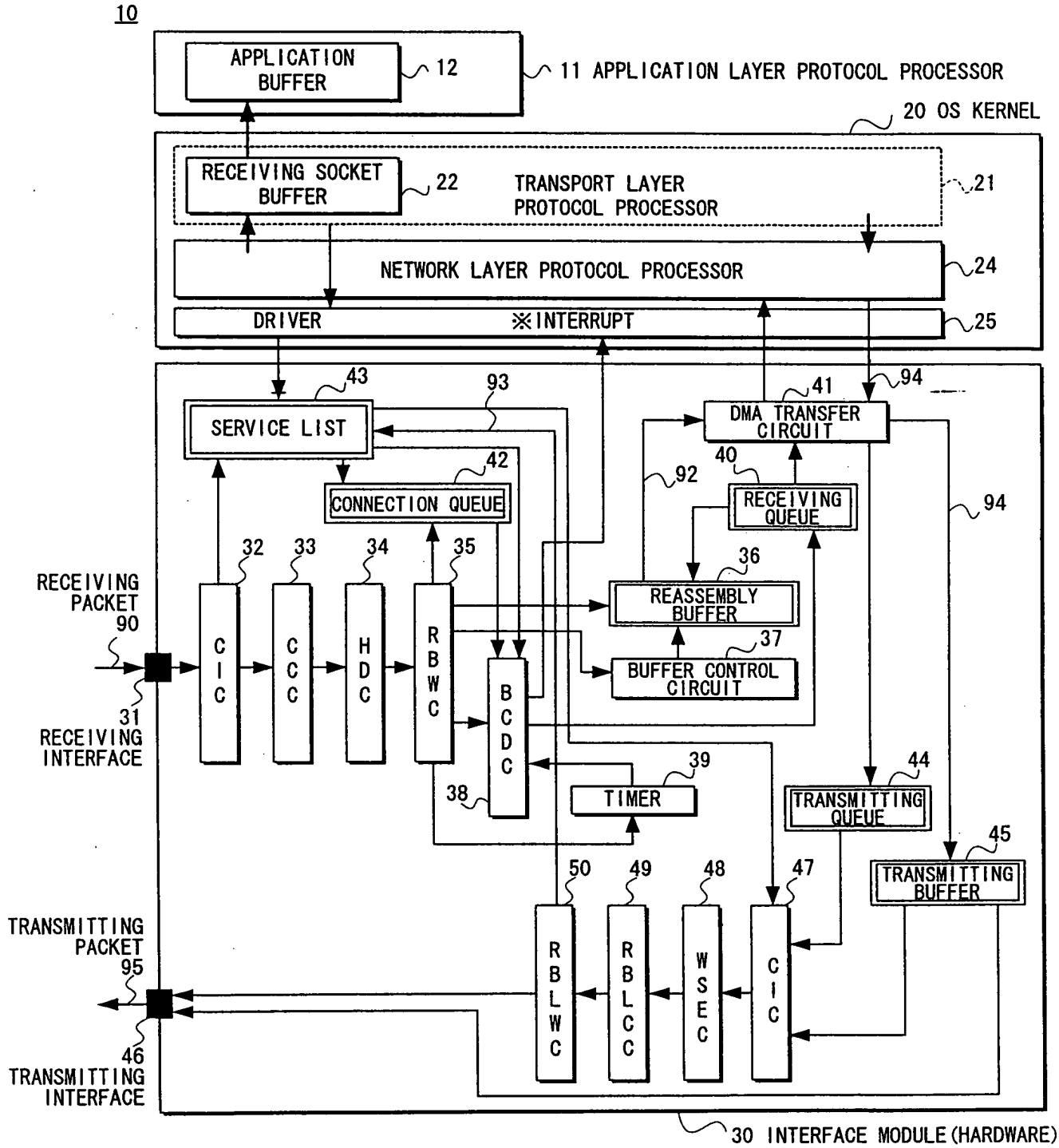

PACKET RECEPTION
S10
S11
ANY ACK PACKET OR URGENT FLAG?
YES
NO
S12
CONNECTION IDENTIFICATION (SERVICE LIST RETRIEVAL)
S13
IN SERVICE LIST?
NO
S14
TRANSFER PROCESS AS ORDINARY IP PACKET
YES
S15
CHECKSUM CALCULATION
S16
HEAD PACKET?
NO
S21
DELETE HEADER
YES
S17
OBTAIN REASSEMBLY BUFFER WRITE STARTING POSITION
S22
OBTAIN REASSEMBLY BUFFER WRITE STARTING POSITION
S18
WRITE IN REASSEMBLY BUFFER
S23
WRITE IN REASSEMBLY BUFFER
S19
REFER SERVICE LIST/WRITE ADDRESS IN CONNECTION QUEUE
S24
REFER SERVICE LIST /WRITE ADDRESS IN CONNECTION QUEUE
S20
TIMER SETTING
S25
IS BUFFER CONDITION DETERMINING THRESHOLD EXCEEDED?
NO
S26
TIME OUT
NO
YES
YES
INTERRUPT OS
S27

FIG. 6



CIC : CONNECTION IDENTIFYING CIRCUIT
CCC : CHECKSUM CALCULATING CIRCUIT
HDC : HEADER DELETING CIRCUIT
RBWC : REASSSEMBLY BUFFER WRITING CIRCUIT
BCDC : BUFFER CONDITION DETERMINING CIRCUIT
WSEC : WINDOW SIZE EXTRACTING CIRCUIT
RBLCC : RECEIVING BUFFER LENGTH CALCULATING CIRCUIT
RBLWC : RECEIVING BUFFER LENGTH WRITING CIRCUIT

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FG53 ⑦

FIG. 7

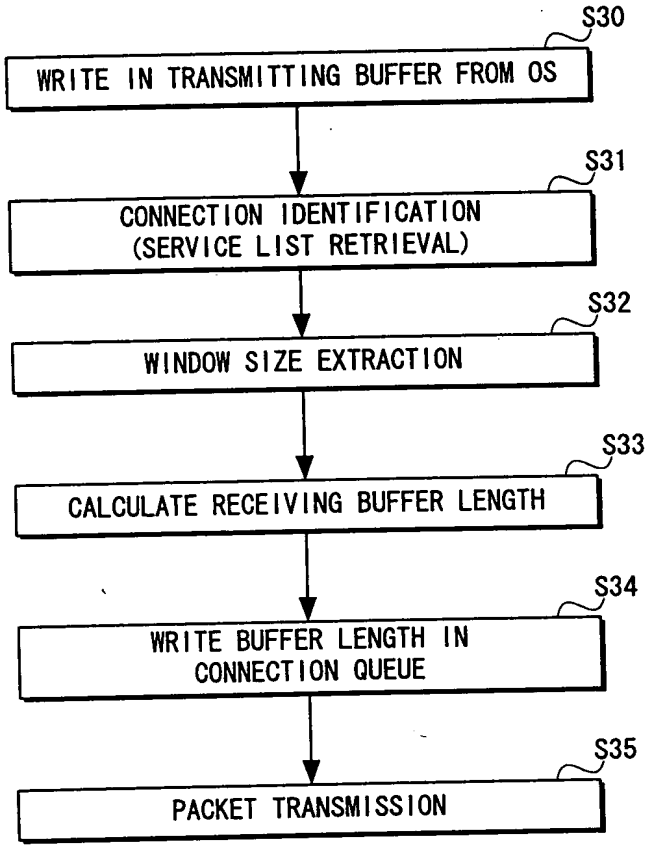
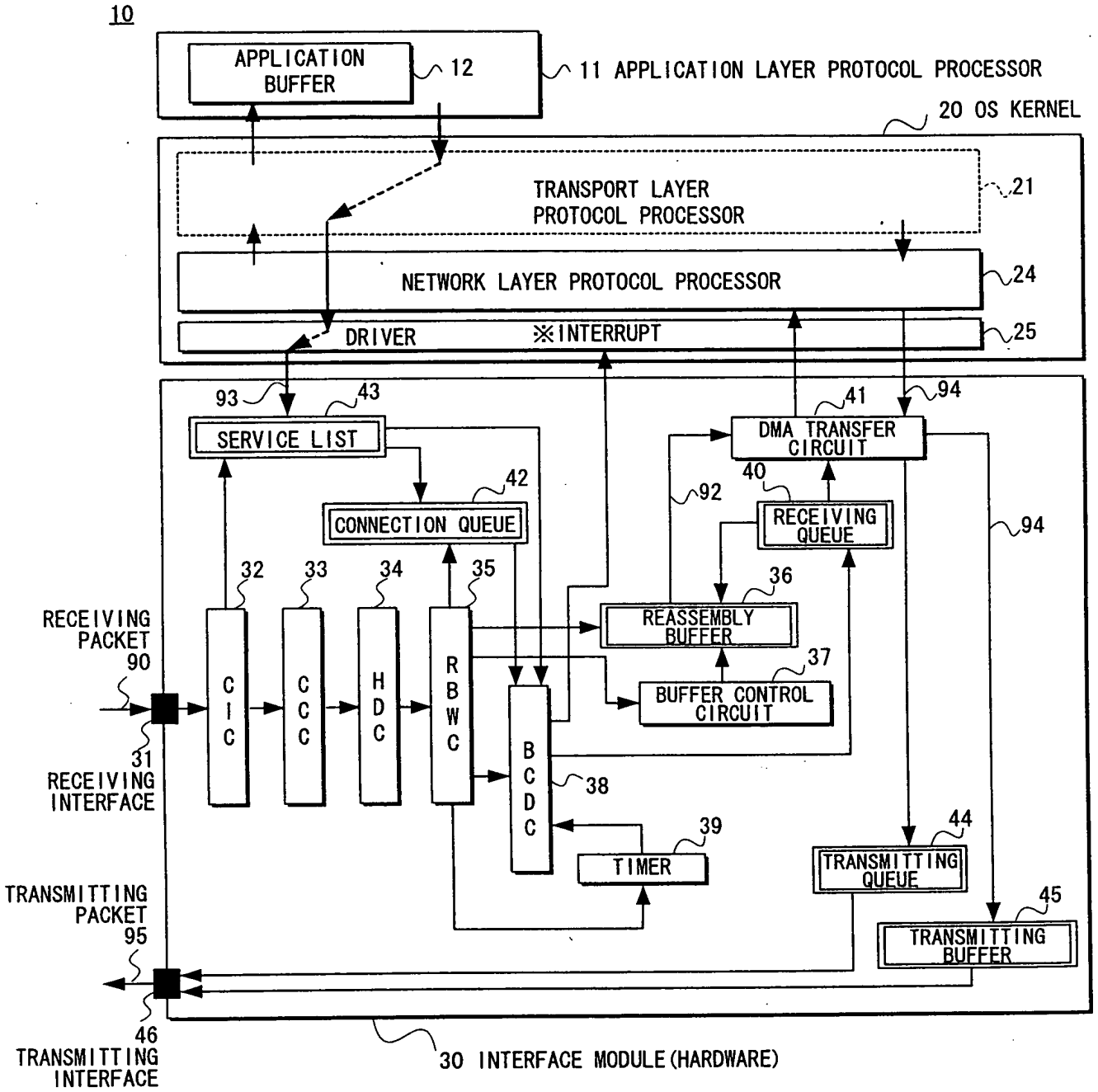

S30
WRITE IN TRANSMITTING BUFFER FROM OS
S31
CONNECTION IDENTIFICATION
(SERVICE LIST RETRIEVAL)
S32
WINDOW SIZE EXTRACTION
S33
CALCULATE RECEIVING BUFFER LENGTH
S34
WRITE BUFFER LENGTH IN
CONNECTION QUEUE
S35
PACKET TRANSMISSION

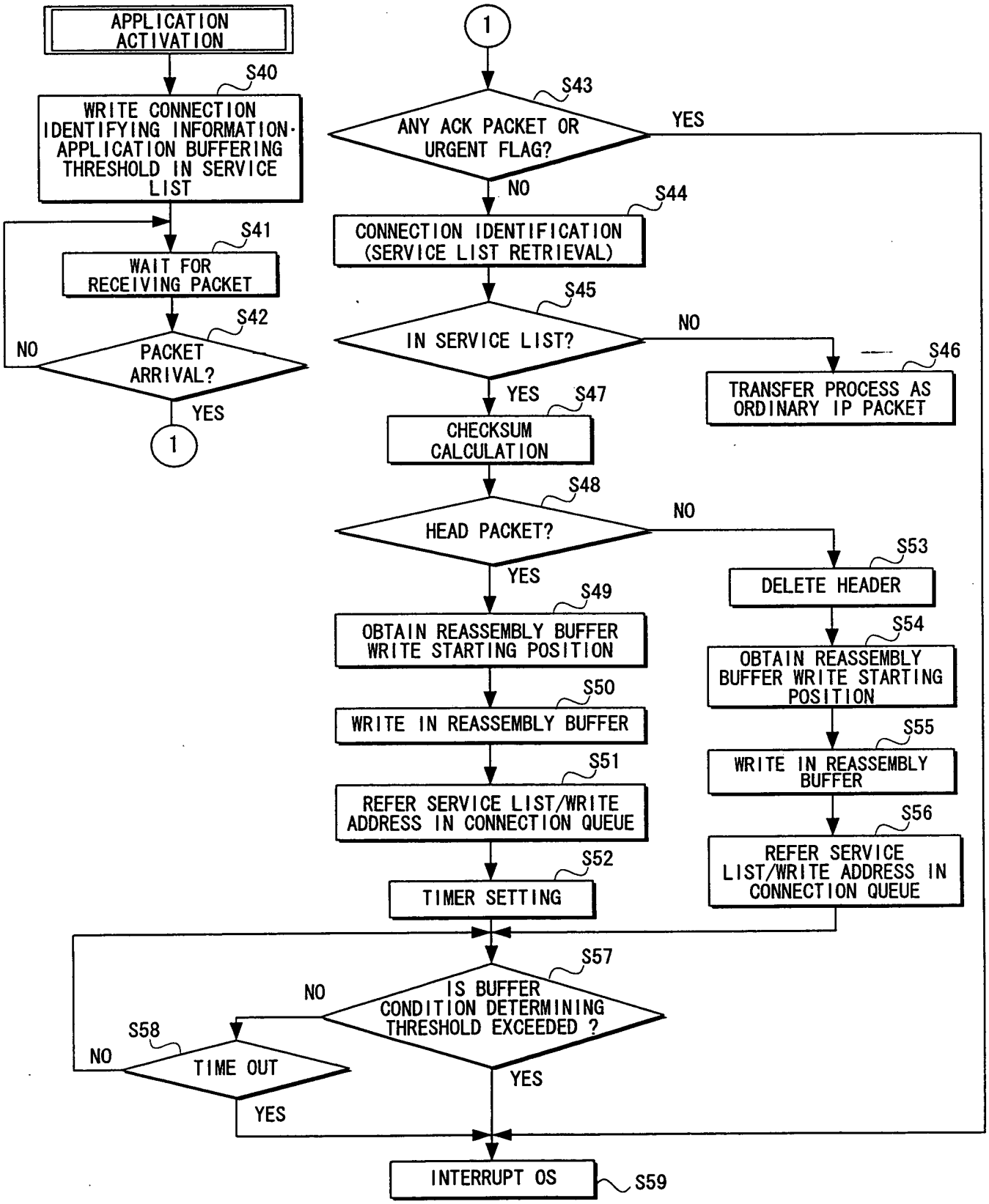
FIG. 8



CIC : CONNECTION IDENTIFYING CIRCUIT
CCC : CHECKSUM CALCULATING CIRCUIT
HDC : HEADER DELETING CIRCUIT
RBWC : REASSSEMBLY BUFFER WRITING CIRCUIT
BCDC : BUFFER CONDITION DETERMINING CIRCUIT

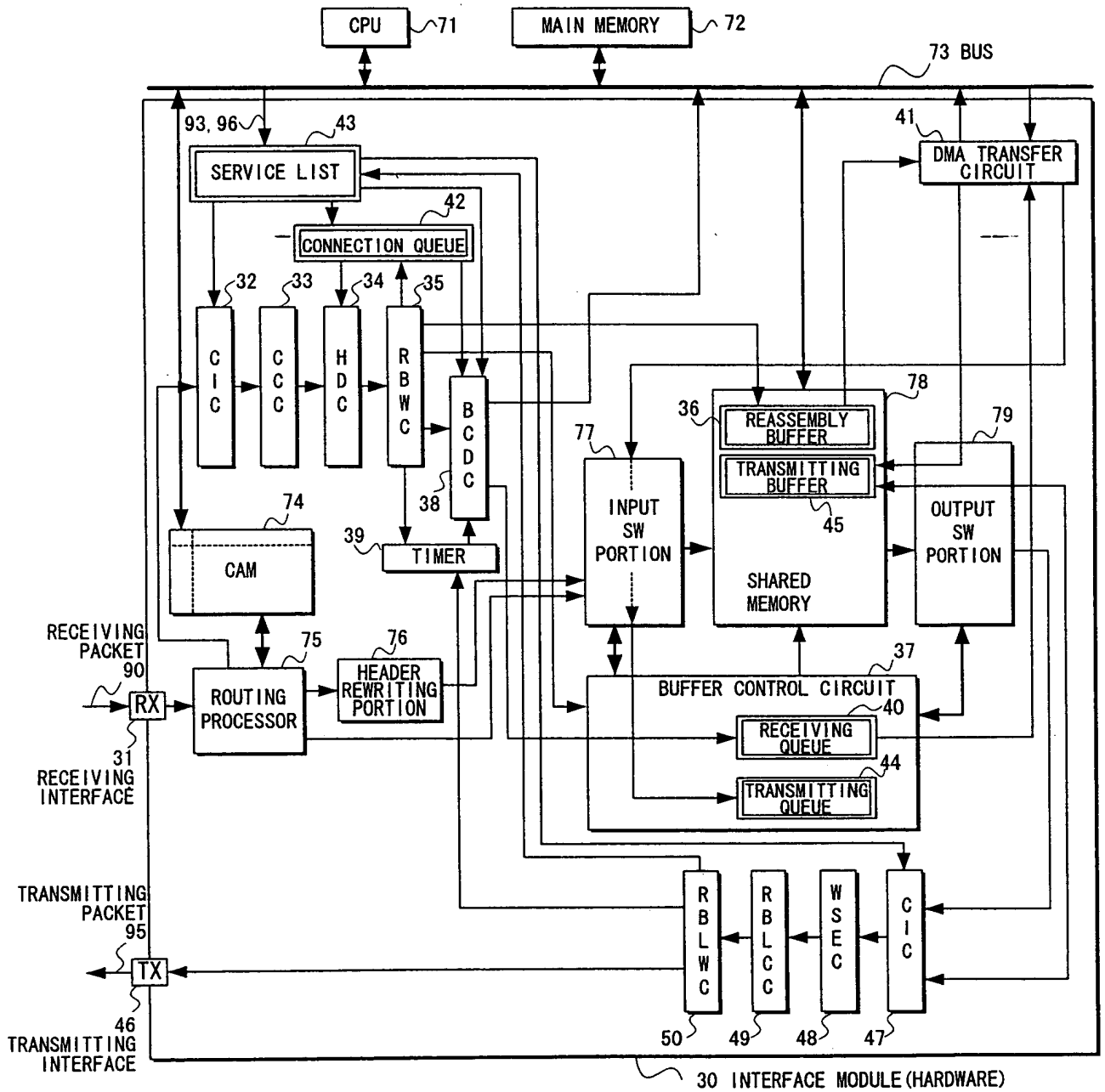
0006+HD-52+2550a

FIG. 9


APPLICATION ACTIVATION
S40
WRITE CONNECTION IDENTIFYING INFORMATION· APPLICATION BUFFERING THRESHOLD IN SERVICE LIST
S41
WAIT FOR RECEIVING PACKET
S42
PACKET ARRIVAL?
NO
YES
1
1
S43
ANY ACK PACKET OR URGENT FLAG?
YES
NO
S44
CONNECTION IDENTIFICATION (SERVICE LIST RETRIEVAL)
S45
IN SERVICE LIST?
NO
S46
TRANSFER PROCESS AS ORDINARY IP PACKET
YES
S47
CHECKSUM CALCULATION
S48
HEAD PACKET?
NO
YES
S49
OBTAIN REASSEMBLY BUFFER WRITE STARTING POSITION
S50
WRITE IN REASSEMBLY BUFFER
S51
REFER SERVICE LIST/WRITE ADDRESS IN CONNECTION QUEUE
S52
TIMER SETTING
S53
DELETE HEADER
S54
OBTAIN REASSEMBLY BUFFER WRITE STARTING POSITION
S55
WRITE IN REASSEMBLY BUFFER
S56
REFER SERVICE LIST/WRITE ADDRESS IN CONNECTION QUEUE
S57
IS BUFFER CONDITION DETERMINING THRESHOLD EXCEEDED ?
NO
YES
S58
TIME OUT
NO
YES
INTERRUPT OS
S59

FG53 (9)

FIG. 10



CIC : CONNECTION IDENTIFYING CIRCUIT
CCC : CHECKSUM CALCULATING CIRCUIT
HDC : HEADER DELETING CIRCUIT
RBWC : REASSSEMBLY BUFFER WRITING CIRCUIT
BCDC : BUFFER CONDITION DETERMINING CIRCUIT
WSEC : WINDOW SIZE EXTRACTING CIRCUIT
RBLCC : RECEIVING BUFFER LENGTH CALCULATING CIRCUIT
RBLWC : RECEIVING BUFFER LENGTH WRITING CIRCUIT

FIG. 11

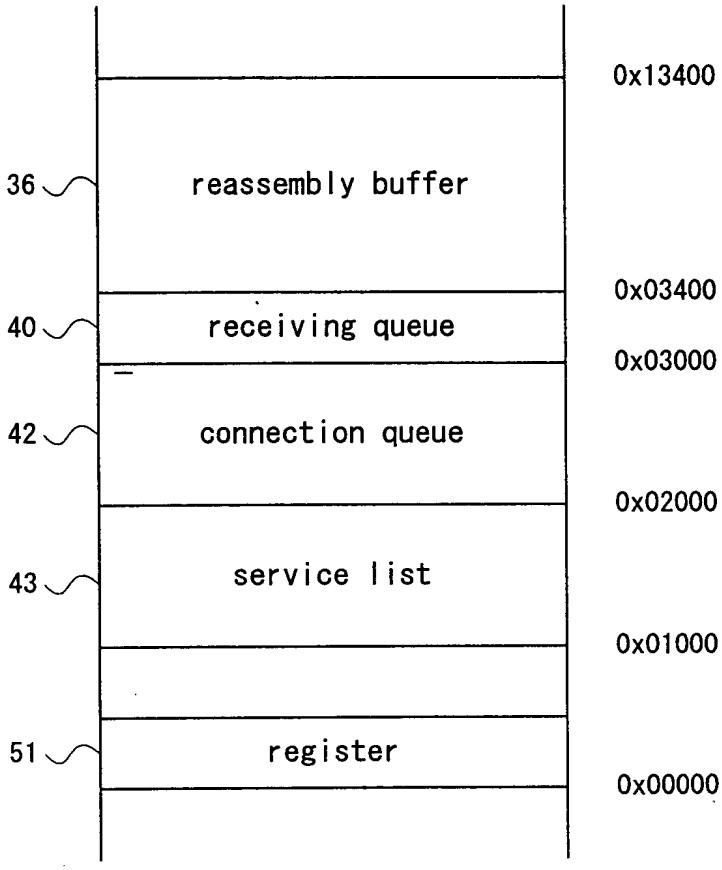


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FIG. 12

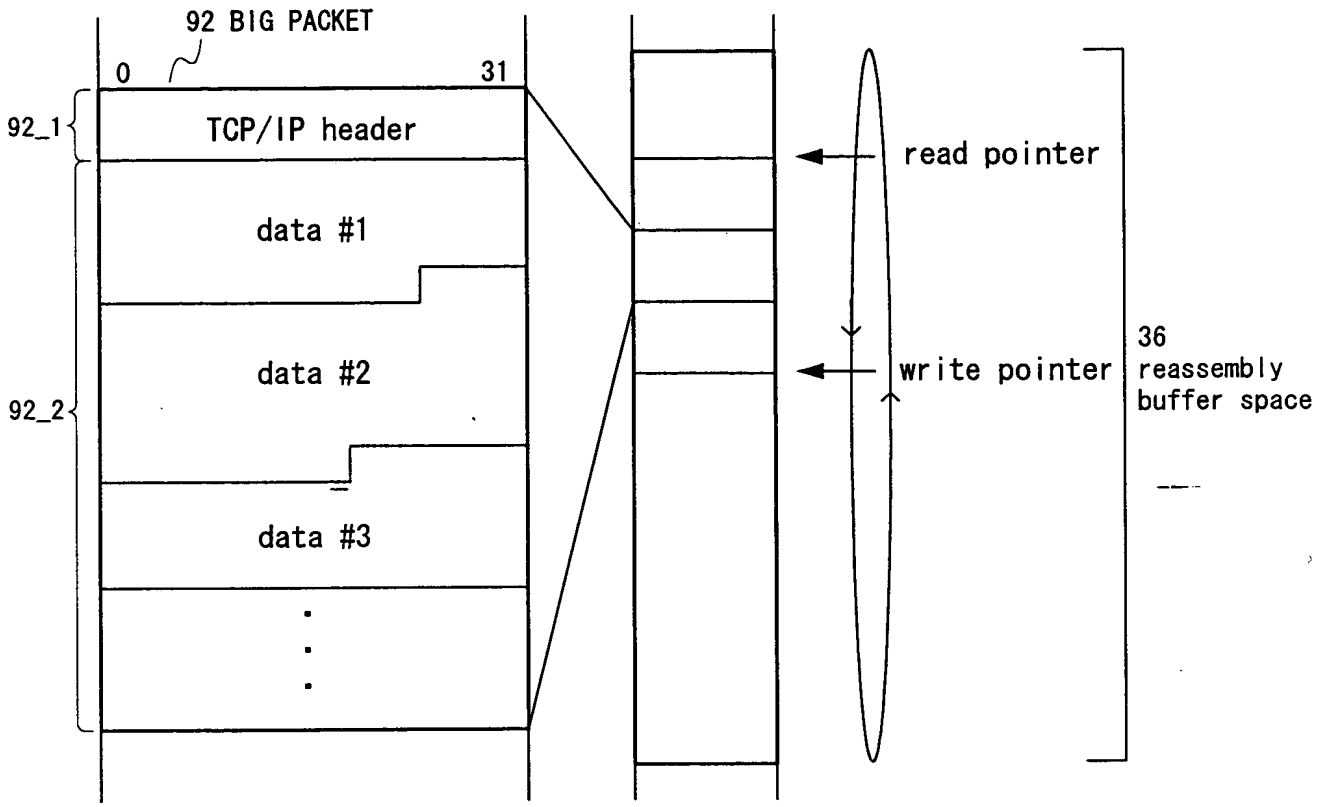
92 BIG PACKET
0
31
92_1
TCP/IP header
data #1
data #2
92_2
data #3
read pointer
write pointer
36
reassembly
buffer space

FIG. 13

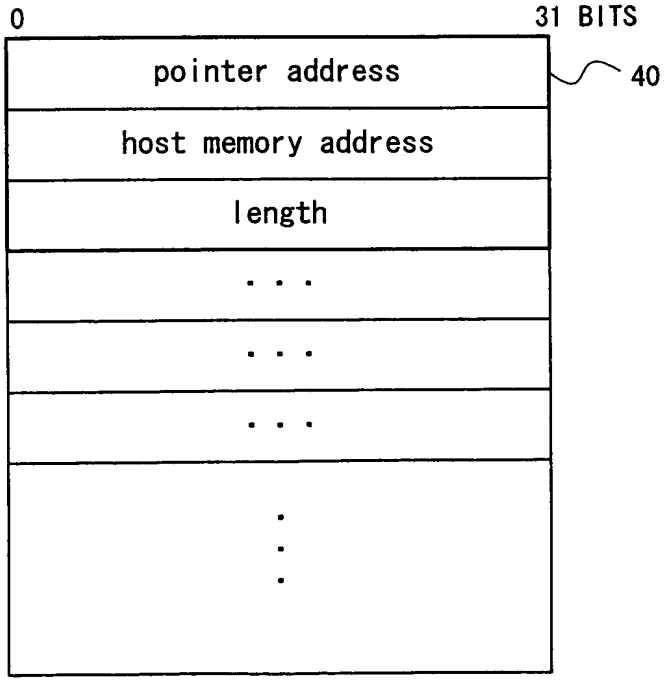
0
31 BITS
pointer address
40
host memory address
length

FIG. 14

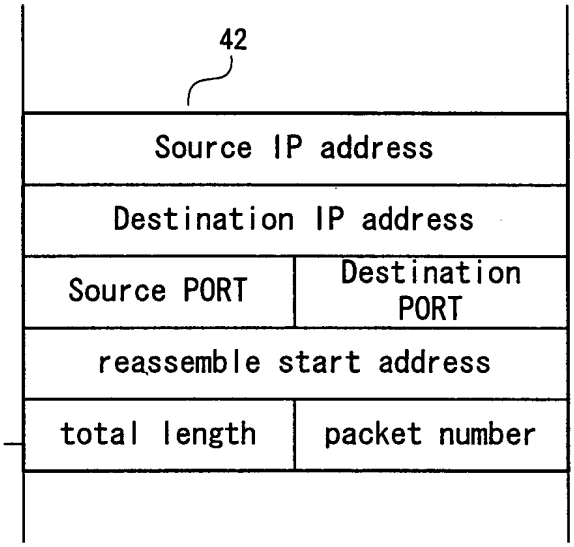

FIG. 15A

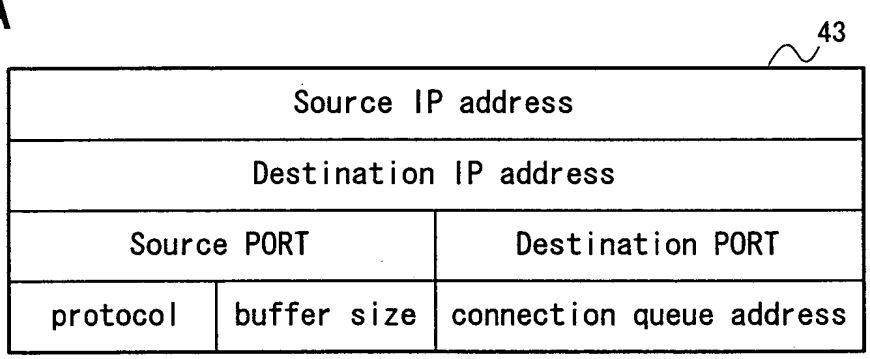

FIG. 15B

PROTOCOL	NUMBER	REMARKS
icmp	1	internet control message protocol
tcp	6	transmission control protocol
egp	8	exterior gateway protocol
udp	17	user datagram protocol
rdp	27	"reliable datagram" protocol

FIG. 16A

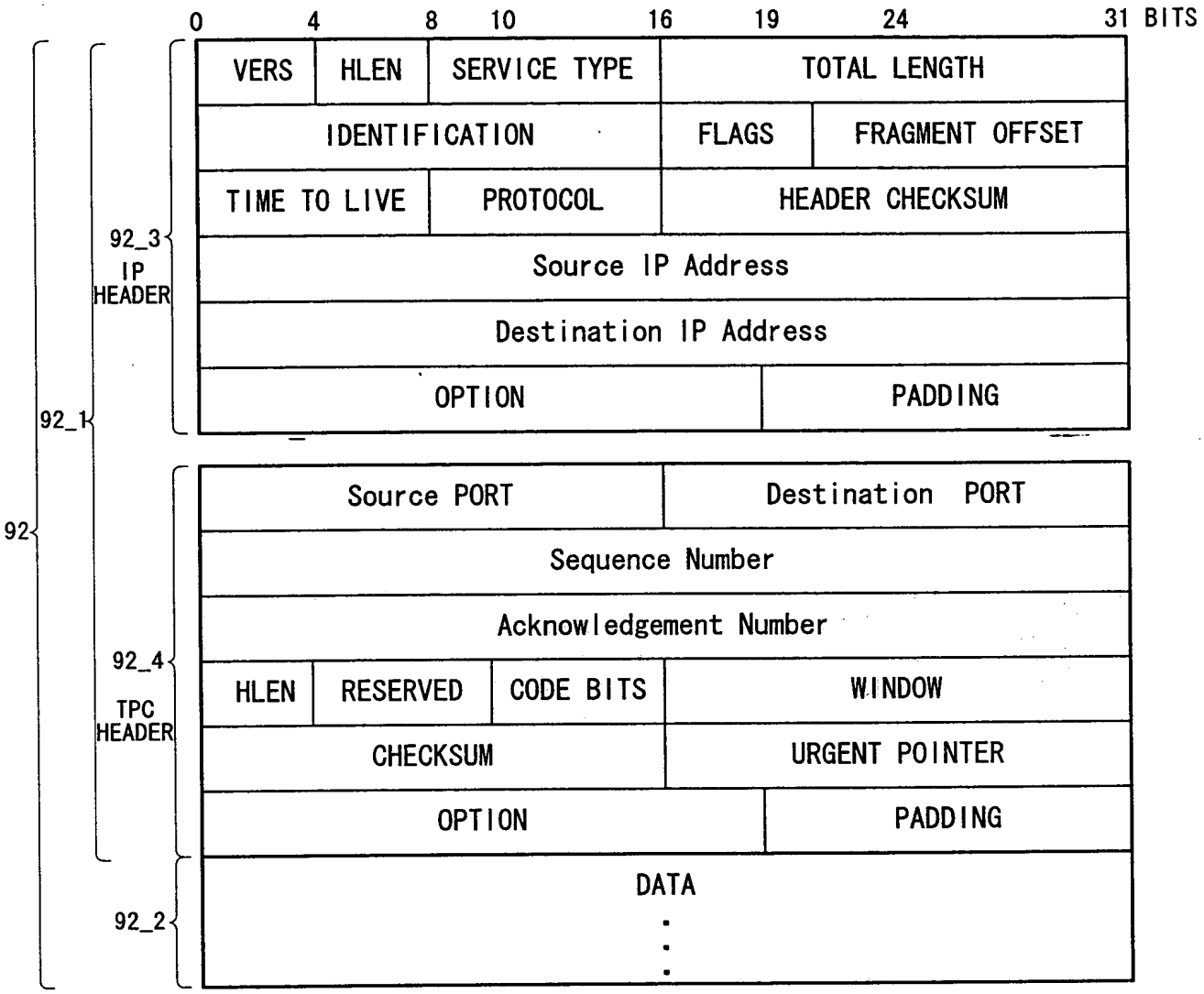

FIG. 16B

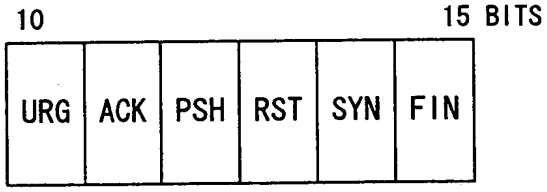

FIG. 16C

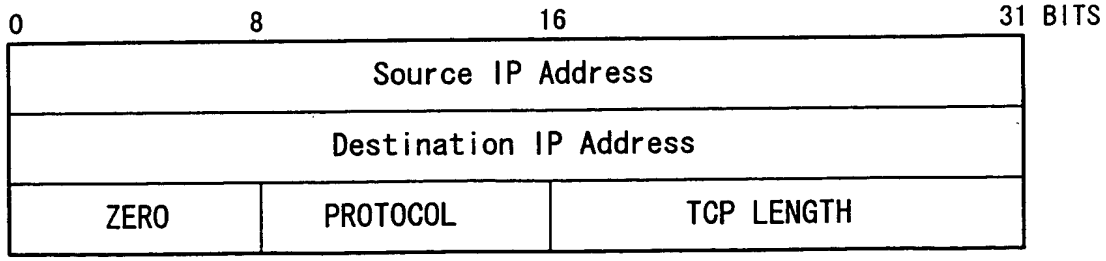

FIG. 17A

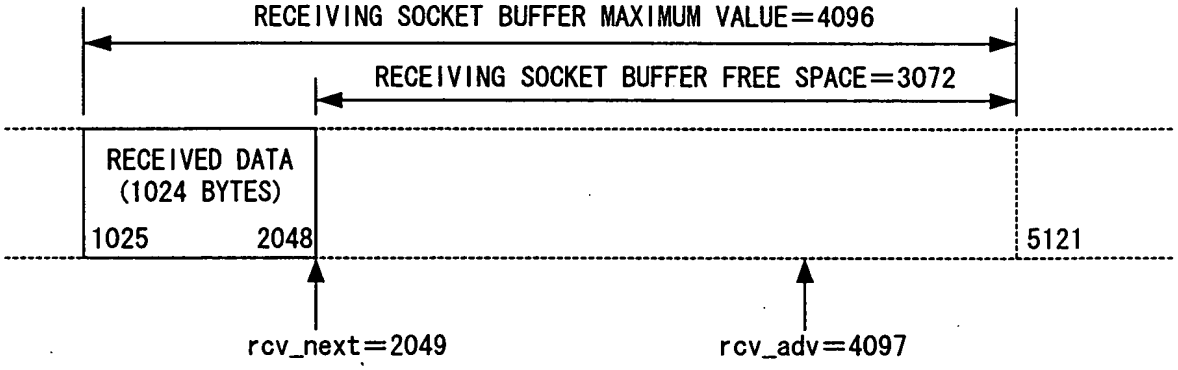

FIG. 17B

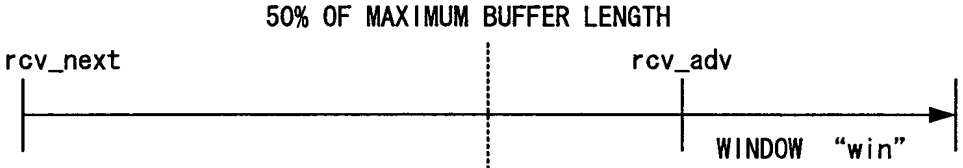

FIG. 17C

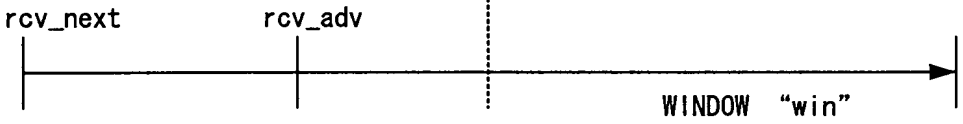

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FIG. 18

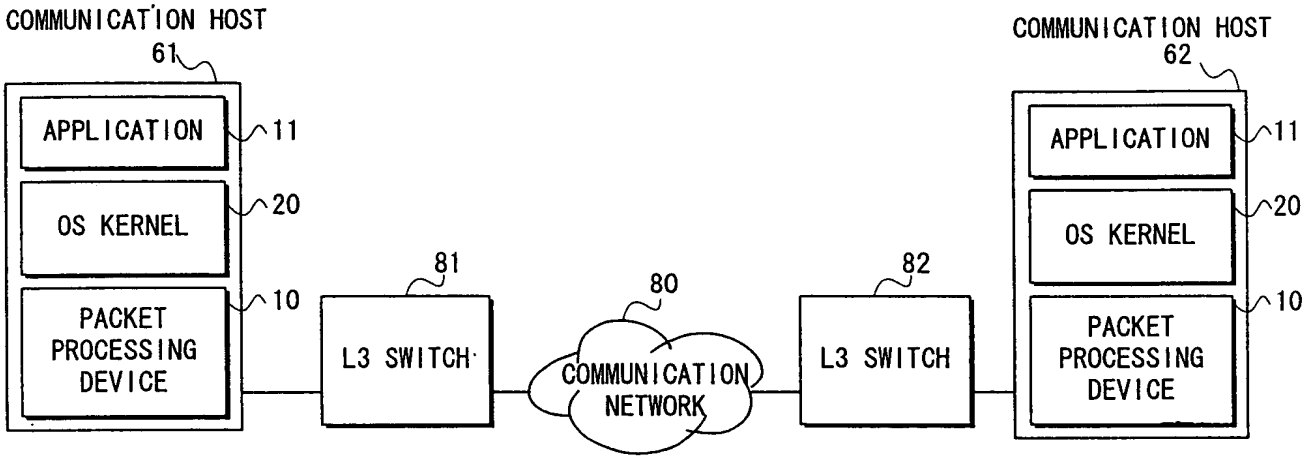


FIG. 19

PRIOR ART

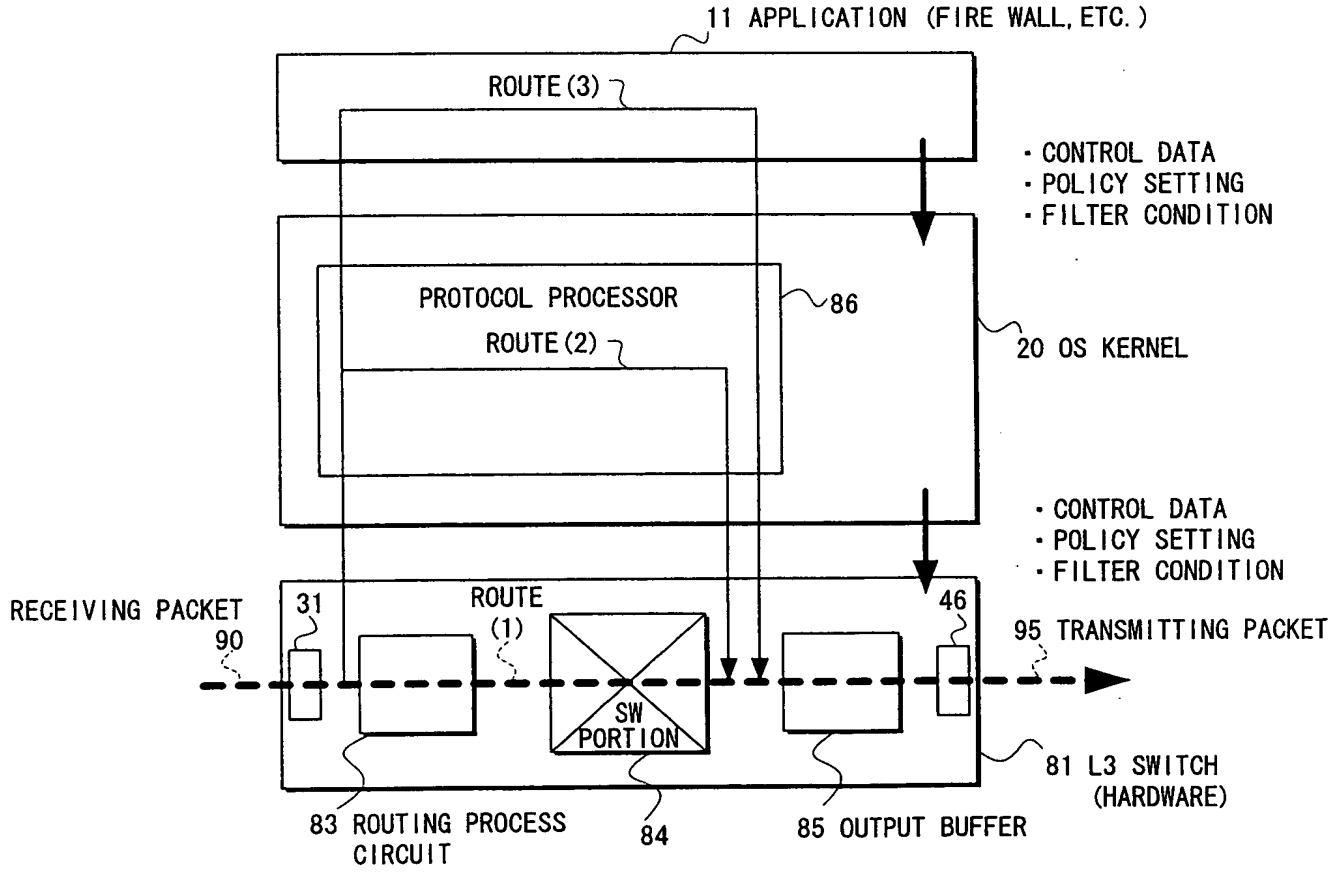


FIG. 20

PRIOR ART

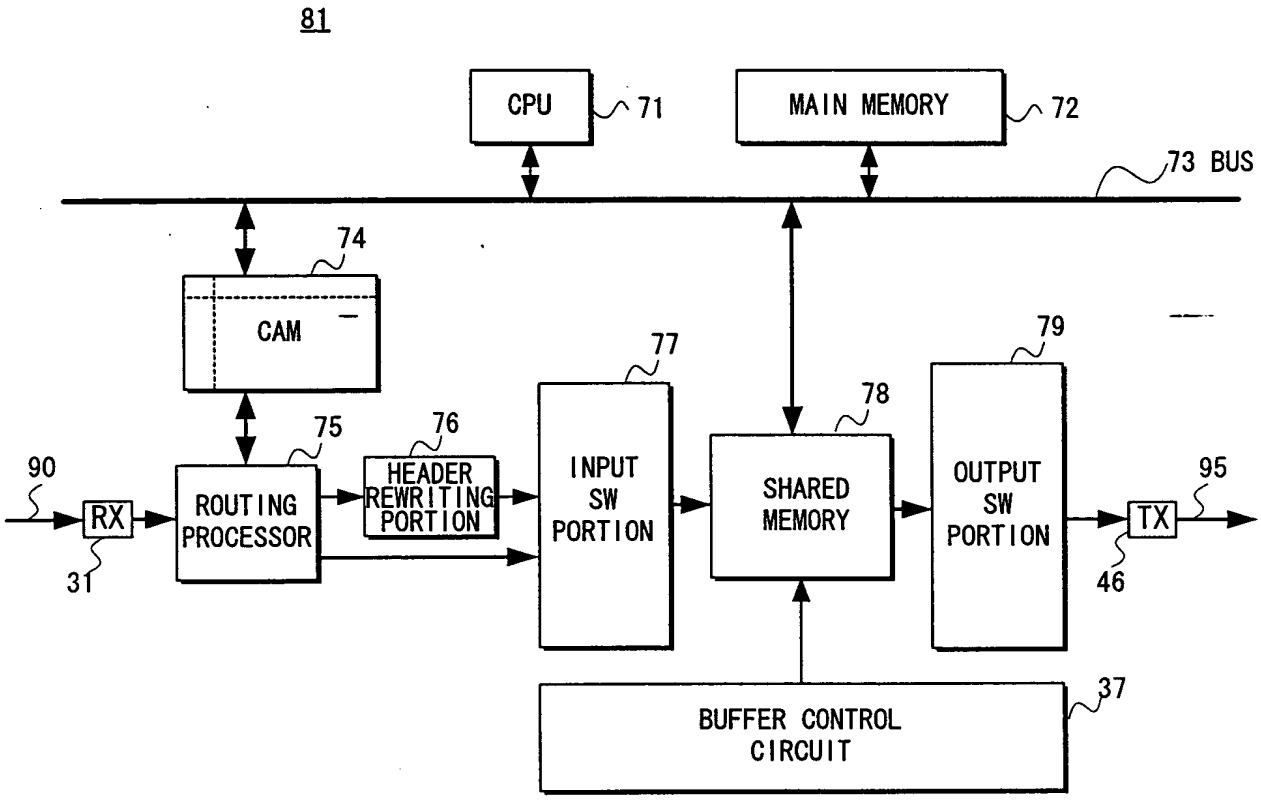


FIG. 21A

PRIOR ART

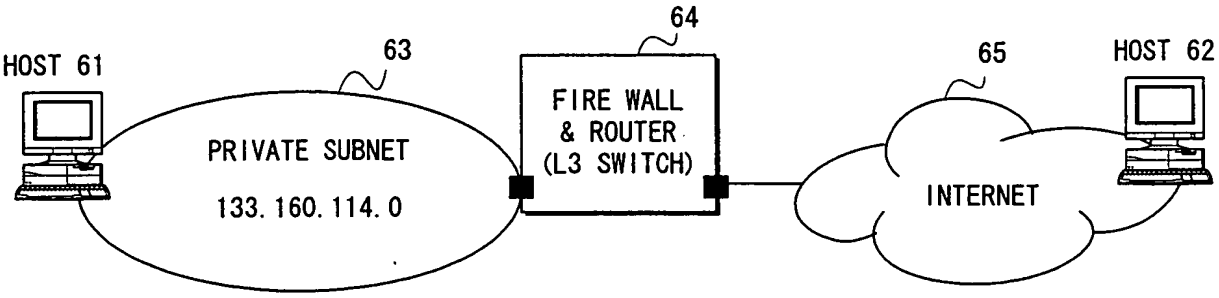
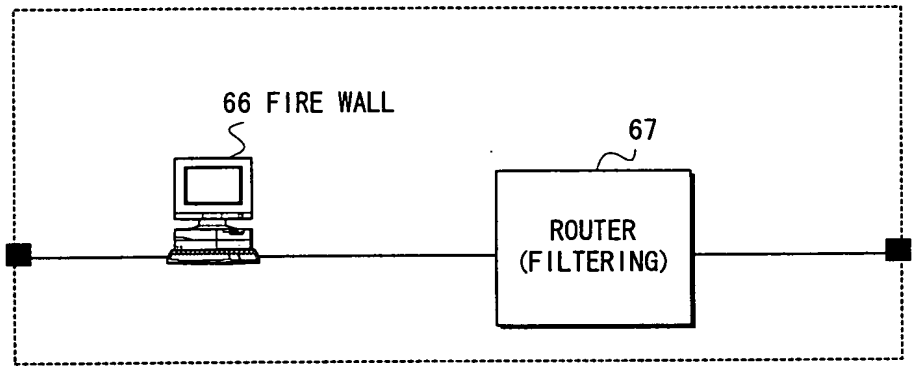


FIG. 21B

PRIOR ART